CLAIMS

We claim:

1. A drive assembly for a passenger conveyor system comprising:

a drive member; and

a plurality of metal stepchain links each having a plurality of teeth made of an integrated piece of material that engages a corresponding surface on said drive member.

2. The assembly as recited in claim 1 wherein each of said plurality of teeth of said plurality of stepchain links have a substantially constant teeth width which is substantially constant across a span between adjacent teeth.

3. The assembly as recited in claim 1 wherein said plurality of teeth of said plurality of stepchain links continually engage said drive member.

4. The assembly as recited in claim 1 wherein said plurality of teeth of said plurality of stepchain links have a substantially constant pitch which is substantially constant across a span between adjacent teeth.

5. The assembly as recited in claim 1 wherein said drive member comprises a non-metallic portion and a metallic portion.

6. The assembly as recited in claim 1 wherein each said stepchain link comprises a single piece of die cast metal.

7. The assembly as recited in claim 6 wherein said die cast metal is selected from the group consisting of aluminum and magnesium.

8. The assembly as recited in claim 7 wherein each of said stepchain links includes a first end having a hole and a second end having two spaced apart portions, each including a hole, said first end of one of said stepchain links is received at least partially between said second end portions of another of said plurality of stepchain links, and including an attachment member received through said holes to secure said first end of said one stepchain links to said second end of said another stepchain link.

9. The assembly as recited in claim 7 wherein a first of said stepchain links includes a first end having a first hole and a second end having a second hole and a second of said stepchain links includes a third end having two spaced apart portions each including a third spaced apart hole and a fourth end having two spaced apart portions each including a fourth spaced apart hole, and each of said first end and said second end of said first of said stepchain links is received at least partially between one of said third end having two spaced apart portions and said fourth end having two spaced apart portions, and including an attachment member received through said holes to secure said first end and said second end of said one stepchain links to one of said third end and said fourth end of said another stepchain links.

10. The assembly as recited in claim 1 wherein each said stepchain link comprises at least one piece of sheet metal.

11. The assembly as recited in claim 10 wherein said stepchain links each include an outer drive member engaging portion having a first side and a second side and a bottom extending therebetween, said bottom having at least some of said plurality of teeth, and said sheet metal piece is secured to said outer portion such that said sheet metal piece carries tensile loads on said links.

12. The assembly as recited in claim 11 wherein a distance between said at least one piece of sheet metal is smaller than a width of said bottom of said stepchain links.

13. The assembly as recited in claim 11 wherein each stepchain link includes at least two sheet metal pieces secured to said outer portion, said sheet metal pieces of one of said stepchain links secured to said sheet metal pieces of an adjacent stepchain link, said outer portions of adjacent links not contacting each other.

14. The assembly as recited in claim 11 wherein said sheet metal piece include lateral openings and said first and said second sides of said outer portion include corresponding openings and including an attachment member received through said openings to secure said outer portion to said sheet metal pieces.

15. The assembly as recited in claim 11 wherein a plate having a plurality of plastic teeth are secured on said bottom having some of said plurality of teeth.

16. The assembly as recited in claim 1 wherein an interface between said drive member and said plurality of metal stepchain links is between 40 mm and 100 mm.

17. The assembly as recited in claim 16 wherein an interface between said drive member and said plurality of metal stepchain links is 65 mm.

18. A passenger conveyor system comprising:

a plurality of steps moveable in a loop along a path;

at least one panel member adjacent each step;

a drive member; and

a plurality of metal stepchain links each having a plurality of teeth made of an integrated piece of material that engages a corresponding surface on said drive member.

19. The system as recited in claim 18 wherein each of said plurality of teeth of said plurality of stepchain links have a substantially constant teeth width which is substantially constant across a span between adjacent teeth.

20. The system as recited in claim 18 wherein said plurality of teeth of said plurality of stepchain links continually engage said drive member.

21. The system as recited in claim 18 wherein said plurality of teeth of said plurality of stepchain links have a substantially constant pitch which is substantially constant across a span between adjacent teeth.

22. The system as recited in claim 21 wherein said drive member comprises a non-metallic portion and a metallic portion.

23. The system as recited in claim 21 wherein each of said plurality of stepchain links includes a support that at least partially supports a bridge positioned between said at least one panel members of adjacent steps.

24. The system as recited in claim 18 wherein said stepchain links are formed of die cast metal.

25. The system as recited in claim 24 wherein said die cast metal is selected from the group consisting of aluminum and magnesium.

26. The system as recited in claim 18 wherein each said stepchain link comprises at least one piece of sheet metal.

27. The system as recited in claim 26 wherein said stepchain links each includes an outer drive member engaging portion having a first side and a second side and a bottom extending therebetween, said bottom having at least some of said plurality of teeth, and said sheet metal piece is secured to said outer portion such that said sheet metal piece carries tensile loads on said links.

28. The system as recited in claim 26 wherein a distance between said at least one piece of sheet metal is smaller than a width of said bottom of said stepchain links.

29. The system as recited in claim 26 wherein each stepchain link includes at least two sheet metal pieces secured to said outer portion, said sheet metal pieces of one of said stepchain links secured to said sheet metal pieces of an adjacent stepchain link, said outer portions of adjacent links not contacting each other.

30. The system as recited in claim 26 wherein a plate having a plurality of plastic teeth are secured on said bottom having some of said plurality of teeth.

31. The system as recited in claim 18 wherein an interface between said drive member and said plurality of metal stepchain links is between 40 mm and 100 mm.

32. The system as recited in claim 31 wherein an interface between said drive member and said plurality of metal stepchain links is 65 mm.

33. A stepchain link for a passenger conveyor system comprising:

a body portion of a single piece of metal each; and

a plurality of teeth made of an integrated piece of material that engage a corresponding surface on a drive member.

34. A stepchain link for a passenger conveyor system comprising:

a first portion adapted to carry tensile loads on the link; and

a second portion adapted to engage a drive member, said second portion not carrying said tensile loads.

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